

**AMENDMENTS TO THE DRAWINGS:**

Please replace original drawing sheet 1 (FIGS. 1-3) with the attached replacement sheet (FIGS. 1-3).

## **REMARKS**

Claims 1-14, 16-30, and 32-62 are pending in the application. In this response, claims 1, 4, 6, 8, 16, 24, 28, 32, 40, and 55 have been amended for clarity, claims 15 and 31 have been cancelled, and claims 58-62 have been newly added. The specification and the drawings have been amended to overcome the Examiner's objections set forth at pages 2-3 of the Office Action dated August 8, 2007 (hereinafter "Office Action"). Exemplary support for the claim amendments can be found at least in the original claims and specification. See, for example, page 8, lines 3-6 and page 13, lines 27-29 of the specification. Accordingly, Applicants respectfully submit that no new matter has been added.

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and the following remarks.

### **Objections to the Specification**

The specification has been amended to include the section - Cross-Reference to Related Applications. As the information added in this section was submitted with the Application Data Sheet filed on April 7, 2006, it is respectfully submitted that the addition of this section to the specification does not introduce new matter.

The specification has also been amended to include section headings as suggested at page 2 of the Office Action.

The specification has further been objected to for a missing Abstract. Applicants respectfully submit that an Abstract has been added to the specification. It is respectfully submit that the addition of this Abstract does not introduce new

matter because the content of the Abstract is the same as the Abstract of PCT/GB04/04266 filed on October 8, 2004. It should be noted that the presently pending application is the National Stage entry of PCT/GB04/04266. Moreover, Applicants note that the front cover of PCT/GB04/04266 was filed on April 7, 2006 to fulfill the requirement of filing an Abstract in the presently pending application.

Finally, the specification has been amended to identify the reference numeral 14' which shows the ballast tanks originally disclosed throughout the specification.

In view of at least the foregoing, Applicants respectfully submit that the objections to the specification should be withdrawn.

#### **Objections to the Drawings**

The drawings have been objected to because the ballast tanks must be shown or the feature(s) canceled from the claim(s). (Pages 2-3, Office Action). Applicants respectfully submit that FIG. 3 has been amended to indicate the ballast tanks with reference numeral 14'. Accordingly, Applicants request that the Examiner withdraw the objections to the drawings.

#### **Rejections Under 35 U.S.C. § 112**

(i) Claims 16, 32, and 47 have been rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement.

The Examiner alleges that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. (Pages 3-4, Office Action). In particular, it is

alleged that Applicant claims each body being divided into a plurality of separately ballastable tanks, yet fails to show and describe the tanks, nor the means by which they are separately ballastable.

Applicants respectfully submit that a person of ordinary skill in the art would be aware of ballast tanks and how they work. Accordingly, a substantial and detailed description of the tanks and the means by which they are separately ballastable does not need to be provided. Further, the specification provides a description of the plurality of tanks which may be individually ballasted. See, for example, page 13, lines 27-30 of the present specification. However, the present invention is not limited to the disclosed embodiment.

Accordingly, Applicants respectfully submit that the rejection of claims 16, 32, and 47 under 35 U.S.C. § 112, first paragraph, should be withdrawn.

(ii) Claims 24 and 40 have been rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite.

Applicants respectfully submit that claims 24 and 40 have been amended to depend from independent claims 1 and 28, respectively. In view of the amendments to claims 24 and 40, withdrawal of this rejection is respectfully requested.

### **Rejections Under 35 U.S.C. § 102**

Initially, it should be noted that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

(i) Claims 1-11, 15, 17, 18, 20, 26, 28, 33, 34, 36, 42-44, 48, and 55-57 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 3,568,620 (hereinafter "Douglas"). The rejection is respectfully traversed.

Douglas relates to a stabilizing and roll and pitch suppressing or damping device for floating marine structures, such as boats, barges, floating platforms, etc. (Col. 1, lines 9-11). Douglas discloses a stabilizing and roll damping device for floating marine structures, comprising: a pair of outriggers; a pair of buckets respectively suspended by and from the outriggers for submerging into and lifting out of the water in which the structure floats; closeable aperture defining means in each of the buckets for selectively admitting water to the respective bucket as the bottom thereof moves below the water line due to downstroke roll and discharging water therefrom into surrounding water wherein the structure floats; and means coupled to the closeable aperture defining means for controlling outflow of water in timed relation to each upstroke of the respective bucket. (See claim 1 of Douglas).

In contrast, amended independent claim 1 recites a vessel comprising a first stabilizer assembly and a second stabilizer assembly, each stabilizer assembly comprising: at least one submergible at least partially hollow body comprising **at least one ballast tank**; and suspending means for suspending the or each body from the vessel such that **the or each body is fully submerged below the water line of the vessel**, the first and second stabilizer assemblies being suspended from substantially opposite sides of the vessel.

Amended independent claim 28 recites an apparatus for reducing vessel motion comprising a first stabilizer assembly and a second stabilizer assembly, each stabilizer assembly comprising: at least one submergible at least partially hollow

body including **at least one ballast tank**; and suspending means for suspending the or each body from the vessel such that **the or each body is fully submerged below the water line of the vessel**, the first and second stabilizer assemblies being suitable for locating at substantially opposite portions of the vessel.

Independent claim 44 recites a submergible body in the form of an at least partially hollow tube, for reducing motion of a water-borne vessel comprising: **at least one ballast tank**; and at least one projecting fin for increasing the drag of the body through water.

Amended independent claim 55 recites a method for reducing motion of a water-borne vessel comprising: suspending at least two at least partially hollow bodies each comprising **at least one ballast tank below the water line** from substantially opposite sides of the vessel.

Applicants respectfully submit that while Douglas discloses pairs of buckets suspended from outriggers and the buckets fill during the down stroke and empty during the up stroke in phase opposition to provide a damping mechanism, Douglas does not disclose that the buckets include buoyancy chambers, *i.e.*, **ballast tanks**. Moreover, Douglas does not disclose that the buckets are suspended such that they are **fully submerged beneath the water line of the vessel**.

Applicants note that although one of the buckets in Douglas may be fully submerged during the motion of the boat, if both buckets remained fully submerged they would not be able to fill and empty as required.

Applicants respectfully submit that not only does Douglas fail to disclose **at least one ballast tank** but Douglas also fails to disclose **the or each body is fully submerged below the water line of the vessel**, as presently recited.

Accordingly, Applicants respectfully submit that independent claims 1, 28, 44, and 55 are patentable over Douglas. As independent claims 1, 28, 44, and 55 are patentable over Douglas, dependent claims depending from these independent claims are also patentable over Douglas for at least the same reasons.

(ii) Claims 1, 15, 16, 25, 26, 28, 30-32, 41, 44, and 47 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 2,895,300 (hereinafter "Hayward"). The rejection is respectfully traversed.

Hayward relates to submersible vessels and methods for stabilizing such vessels during the submersion and raising thereof in a water body. (Col. 1, lines 15-17). Hayward discloses an apparatus for stabilizing a submersible vessels during submersion and raising thereof in a water body, comprising, a stabilizing body having negative buoyancy positioned partly submerged in the water body in laterally spaced relation to the vessel, a pair of connection members pivotally connecting said stabilizing body to vertically spaced points on the vessel, one of said connection members being adjustable in length to maintain said stabilizing body partly submerged in the water body during submersion and raising of the vessel. (See claim 6 of Hayward).

In contrast, amended independent claim 1 recites a vessel comprising a first stabilizer assembly and a second stabilizer assembly, each stabilizer assembly comprising: at least one submergible at least partially hollow body comprising **at least one ballast tank**; and suspending means for suspending the or each body from the vessel such that **the or each body is fully submerged below the water**

**line of the vessel**, the first and second stabilizer assemblies being suspended from substantially opposite sides of the vessel.

Amended independent claim 28 recites an apparatus for reducing vessel motion comprising a first stabilizer assembly and a second stabilizer assembly, each stabilizer assembly comprising: at least one submergible at least partially hollow body including **at least one ballast tank**; and suspending means for suspending the or each body from the vessel such that **the or each body is fully submerged below the water line of the vessel**, the first and second stabilizer assemblies being suitable for locating at substantially opposite portions of the vessel.

Independent claim 44 recites a submergible body in the form of an at least partially hollow tube, for reducing motion of a water-borne vessel comprising: **at least one ballast tank**; and at least one projecting fin for increasing the drag of the body through water.

Applicants respectfully submit that Hayward does not disclose each and every feature recited in the amended independent claims 1, 28, and 44. In particular, Applicants respectfully submit that Hayward at least does not disclose **the or each body is fully submerged below the water line of the vessel**.

Accordingly, Applicants respectfully submit that independent claims 1, 28, and 44 are patentable over Hayward. As independent claims 1, 28, and 44 are patentable over Hayward, dependent claims depending from these independent claims are also patentable over Hayward for at least the same reasons.



(iii) Claims 1, 9-12, 25, 27, 28, and 41 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. § 3,064,613 (hereinafter "Hubick"). The rejection is respectfully traversed.

Hubick relates to stabilizers for water crafts and the like. (Col. 1, lines 8-9). Hubick discloses a stabilizer for boats and the like comprising a hollow frustum body, a rigid arm extending radially across the frustum body and secured at its ends to the body substantially midway along the wall of the body, a rigid rod connected at one end to the center of the arm and extending away from the arm coaxial with the frustum body. (See claim 1 of Hubick). Hubick discloses that hollow frustums are suspended from opposite sides of a small boat to act as stabilizing bodies. (See, for example, Col. 1, lines 22-37).

In contrast, amended independent claim 1 recites a vessel comprising a first stabilizer assembly and a second stabilizer assembly, each stabilizer assembly comprising: at least one submergible at least partially hollow body comprising **at least one ballast tank**; and suspending means for suspending the or each body from the vessel such that **the or each body is fully submerged below the water line of the vessel**, the first and second stabilizer assemblies being suspended from substantially opposite sides of the vessel.

Amended independent claim 28 recites an apparatus for reducing vessel motion comprising a first stabilizer assembly and a second stabilizer assembly, each stabilizer assembly comprising: at least one submergible at least partially hollow body including **at least one ballast tank**; and suspending means for suspending the or each body from the vessel such that **the or each body is fully submerged**

**below the water line of the vessel**, the first and second stabilizer assemblies being suitable for locating at substantially opposite portions of the vessel.

Independent claim 44 recites a submergible body in the form of an at least partially hollow tube, for reducing motion of a water-borne vessel comprising: **at least one ballast tank**; and at least one projecting fin for increasing the drag of the body through water.

Applicants respectfully submit that Hubick does not disclose stabilizing bodies including buoyancy chambers, *i.e.*, **ballast tanks**. In contrast, amended independent claims 1, 28, and 44 recite **at least one ballast tank**.

Accordingly, Applicants respectfully submit that independent claims 1, 28, and 44 are patentable over Hubick. As independent claims 1, 28, and 44 are patentable over Hubick, dependent claims depending from these independent claims are also patentable over Hubick for at least the same reasons.

### **Rejection Under 35 U.S.C. § 103**

Claims 13, 14, 19, 21-23, 29-31, 35, 37-39, 45, 46, and 49-54 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Douglas. The rejection is respectfully traversed.

The Office has the initial burden of establishing a **factual basis** to support the legal conclusion of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in KSR Int'l v. Teleflex Inc., 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its

elements was, independently, known in the prior art." "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some **articulated reasoning with some rational underpinning** to support the legal conclusion of obviousness." In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (emphasis added).

The discussion provided hereinabove regarding Douglas is herein incorporated in its entirety.

Further, Applicants respectfully submit that while Douglas discloses pairs of buckets suspended from outriggers and the buckets fill during the down stroke and empty during the up stroke in phase opposition to provide a damping mechanism, Douglas does not disclose or suggest that the buckets include buoyancy chambers, *i.e.*, **ballast tanks**. Moreover, Douglas does not disclose or suggest that the buckets are suspended such that they are **fully submerged beneath the water line of the vessel**.

It should be noted that the advantage of the presently recited **at least one ballast tank** is that that the body which includes the **at least one ballast tank**, can be suitably ballasted so that rolling can be controlled to be dependent on the force and period of the waves and thus, the amount of damping of the rolling motion can be adjusted according to the conditions surrounding the body. In addition, if it is required to unload or load from or to the vessel to or from another vessel, the amount of damping can be adjusted to bring the vessel into line with the other vessel so that unloading and loading is facilitated. (See, for example, page 6, lines 30-34 and page 7, lines 1-6). However, the present invention is not limited to the disclosed embodiment.

Applicants note that although one of the buckets in Douglas may be fully submerged during the motion of the boat, if both buckets remained fully submerged they would not be able to fill and empty as required. In particular, Applicants respectfully submit that Douglas teaches away from having the stabilizing bodies fully submerged. It should be noted that a prima facie case of obviousness may be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. In re Geisler, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997).

Applicants respectfully submit that not only does Douglas fail to disclose **at least one ballast tank** but Douglas also fails to disclose **the or each body is fully submerged below the water line of the vessel**. Applicants further respectfully submit that Douglas fails to recognize the advantages resulting from the **at least one ballast tank**.

Accordingly, Applicants respectfully submit that dependent claims 13, 14, 19, 21-23, 29, 30, 35, 37-39, 45, 46, and 49-54 are patentable over Douglas for at least the reasons provided hereinabove.

#### **New Claims**

New claims 58-62 have been added. Support for the new claims can be found throughout the specification and claims as filed.

Applicants respectfully submit that new claims 58-62 are patentable over Douglas, Hayward, and Hubick for at least the reasons discussed hereinabove.

**Conclusion**

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

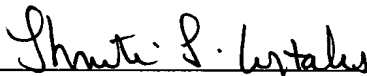
In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: February 8, 2008

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Attachment: Replacement Sheet

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